

A GARAGE DOOR VENTILATION APPARATUS

This invention relates to a garage door and a garage door ventilation apparatus to be used on the garage door to facilitate air flow inside the garage area when the door is closed. The garage area of a home is a very important and popular area of the home for various reasons. It is very popular for use as a work area for working on automobiles, working on household projects and other such activities. It is also popular for use as a recreational area. In these kinds of activities it is often desirable to have the garage area closed in by keeping the door down. However keeping the garage door down can often make it uncomfortable while the desired activity is being performed.

BACKGROUND ART

Attempts have been made to provide garage doors to facilitate ventilation in a garage door area when the door is closed. One such door is disclosed in U. S. Patent 3,927,709. Such doors are provided with a series of holes in the garage door which are covered by a permanently mounted screen. The use of such a device requires the total replacement of the existing garage door. Accordingly, these devices can not be readily used to facilitate ventilation in the garage areas where it is not desirable to replace the entire door.

Other attempts have been made to provide ventilation in garage doors by cutting out portions of the garage door assemblies and installing windows in the existing panels. Such an arrangement is disclosed in U. S. Patent 5,497,588. Although
5 this is a workable arrangement it is not necessarily desirable because it can be costly.

DISCLOSURE OF THE INVENTION

A ventilation apparatus is provided for mounting in a garage door. The ventilation apparatus is provided with a
10 rectangular shaped base support member having an opening formed therein. A first rectangular shaped tracking member having an opening formed therein is aligned in first portions of the opening in the base member. The ventilation apparatus is also provided with a first transparent member which is coupled
15 in the opening in the first tracking member. A second rectangular shaped tracking member having an opening formed therein is aligned in second portions of the opening in the base support member. A second transparent member is mounted for slidable movement in the opening in the second tracking
20 member. This allows the second transparent member to be moved to a position to cover the second portions of the opening in the base member as well as moved to a position so that the

second portions of the opening in the base member are uncovered.

BRIEF DESCRIPTION OF THE DRAWING

5 The details of the invention will be described in connection with the accompanying drawing in which:

Figure 1 is a perspective view illustrating a garage including a garage door ventilation apparatus illustrated in a garage door in accordance with the principles of the invention.

10 Figure 2 is a front plain view of a garage door ventilation apparatus in accordance with the principles of the invention.

Figure 3 is a front plain view of a garage door ventilation apparatus with a screen member removed in accordance with the principles of the invention.

15 Figure 4 is a cross-sectional view taken along line 3-3 of Figure 3.

Figure 5 is a front plain view illustrating a second embodiment of a garage door ventilation apparatus in accordance with the principles of the invention.

20 Figure 6 is a cross sectional view taken along line 5-5 of Figure 5.

BEST MODE FOR CARRYING OUT THE INVENTION

Referring to Figure 1 there is shown, a garage, generally designated, by the numeral 10, including a garage door, generally designated, by the numeral 12. The garage door 12 is slidably mounted in a well known manner in a garage door opening (shown covered). The garage door 12 is provided with a plurality of panels 14, 16, 18 and 20. A handle 22 for facilitating raising and lowering the garage door 12 is formed on the panel 18. A pair of ventilation panels, generally designated, by the numeral, 26 are horizontally aligned and coupled in the garage door panel 14 of the garage door 12 in openings 28 formed therein.

As illustrated in Figures 2,3 and 4 the ventilation panel 26 is provided with a support or frame assembly member, generally designated, by the numeral, 30. The frame member 30 is provided with a first rectangular planar shaped frame member generally designated, by the numeral 32. The planar shaped member 32 is provided with an upper horizontally extending member 34 and a spaced lower horizontally extending member 36. The planar shaped member 32 is also provided with a

vertically extending member 38 coupled between each end of the horizontally extending members 34 and 36 thereby forming a frame opening, generally designated, by the numeral, 40 therebetween.

5 The frame assembly 30 is also provided with a second rectangular shaped frame member generally designated, by the numeral 42. The second frame member 42 is provided with an upper horizontally extending member 44 and a spaced lower horizontally extending member 46. The second frame member 42 is also provided with a vertically extending member 48 coupled between the horizontally extending members 44 and 46 at each end thereof. The spaced horizontally extending members 44 and 46 are aligned adjacent to a corresponding one of the horizontally extending members 34 and 36, respectively, and is coupled thereto to extend perpendicularly therefrom. Additionally the vertically extending members 48 are aligned adjacent to a corresponding one of the vertically extending members 38 and are coupled thereto to extend perpendicularly therefrom. As a result, the frame member 42 is perpendicular coupled to the frame member 32 so that it extends perpendicularly therefrom into the opening 40.

The ventilation panel 26 is also provided with a pair of window frames, generally designated, by the numerals, 54 and 56 (FIG. 4). The window frame 54 is coupled to the frame member 42 in the frame opening 40. The window frame 54 is provided with upper and lower spaced horizontally extending tracks 58 and 60 which extend about halfway along the members 44 and 46 and a vertically extending track 62 (Figs. 3 and 4) coupled to the horizontal tracks at each outermmost end thereof (Fig. 3) thereby forming a rectangular shape window frame 64 in a first portion of the frame opening 40. A window 66 is coupled in the tracks 58, 60 and 62 of the window frame 54 thereby covering the first portions of the frame opening 40. The window 66 may be made for example, of glas or plexiglass. The second window frame 56 is provided with an upper and lower spaced horizontally extending tracks 68 and 70 which are coupled adjacent to corresponding ones of the tracks 58 and 60 respectively on the frame member 42. The tracks 68 and 70 are coupled in the frame opening 40 to extend the length of the opening. A vertically extending track 72 is coupled to extend between the tracks 68 and 70 at each outermost end thereof thereby forming the rectangular shaped window frame 56. An

intermediate vertically extending member 74 (Fig. 3) is coupled to extend between the tracks 68 and 70 at an intermediate portion thereof and an end member 76 is coupled to extend between the horizontal tracks at one end thereof to form window frame 78 in a second portion of the frame opening 40.

The frame 78 is the same size as the frame 54. A window 82 is coupled in the window frame 78 and the frame is slidably mounted in the frame 56 so that the window 82 can be selectively moved to fully or partially cover the second portions of the frame opening 40 thereby providing ventilation into the garage 10 as desired. The window 82 may be made, for example, of glass or plexiglass. A window locking member, generally designated, by the numeral, 84 having locking portions 86 and 88 which lockingly engage each other in a well known manner is provided to lockingly securing the window 82 in place. The ventilation panel 26 may also be provided with a screen member 90 (Figs. 1 and 2) which can be removably secured in the frame in a well known manner to cover the windows 66 and 82 when desired.

The ventilation panel 26 is also provided with a plurality of coupling members 91 formed on the horizontal and vertical

frame members 34 and 36. The coupling members 91 are provided to couple the panel 26 to the garage door panel 14 of the garage door and may be, for example be rivets or some other well known screw and/or bolting assembly.

5 Referring to Figures 5 and 6, a second embodiment of the ventilation panel 26 is provided with a frame assembly, generally designated, by the numeral, 92. The frame assembly 92 is provided with a first rectangular planar shaped frame member, generally designated, by the numeral, 94. The planar
10 shaped member 94 is provided with an upper horizontally extending member 96 and a spaced lower horizontally extending member 98. The planar shaped member 92 is also provided with a vertically extending member 100 coupled between each end of the horizontally extending members 96 and 98 thereby forming a
15 frame opening 102. The frame assembly 92 is provided with a second rectangular shaped frame member, generally designated, by the numeral, 104. The second frame member 104 is provided with an upper horizontally extending member 106 and a spaced lower horizontally extending member 108. The frame member
20 104 is also provided with a vertically extending member 110 coupled between the horizontally extending members 96 and 98 at each end thereof. The frame assemblies 104 and 92 are

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perpendicularly coupled together as are the frame assemblies 30 and 42 in Figure 4 so that the frame assembly 104 extends perpendicularly from the frame assembly 92 into the frame opening 102.

5 The ventilation panel 26 is also provided with a pair of window frames, generally designated, by the numeral, 112 and 114. The window frame 112 is coupled to the frame member 104 in the frame opening 102. The window frame 112 is provided with upper and lower spaced horizontally extending
10 tracks 116 and 118 and a vertically extending track 120 (only one shown) coupled together to form the rectangular shape window frame 112. An intermediate vertically extending member 122 is coupled to extend between the tracks 116 and 118 at an intermediate portion thereof and an end member 124 is
15 coupled to extend between the horizontal tracks at an end thereof to form a window frame 126 in a first portion of the window opening in the frame opening 102. A window 130 is coupled in the window frame 126 and the frame is slidably mounted in the frame 112 so that the window can be selectively
20 moved into and out of the first portion of the opening 102. The window 130 may be made, for example, of glass or plexiglass.

The window frame 114 is coupled adjacent to the

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5 window frame 112 on frame member 104. The window frame 114 is provided with an upper and lower horizontally extending tracks 132 and 134 and a vertically extending track 136 vertically coupled between the tracks 132 and 134 at outermost ends to form the rectangular window frame 114 (Fig. 6). An intermediate vertically extending member 137 (Fig. 5) is coupled to extend between the tracks 132 and 134 at an intermediate portion thereof and end member 138 is coupled to extend between the horizontal tracks at an end thereof to form a window frame 140 in a second portion of the opening 102. A window 144 is coupled in the window frame 140 and the frame is slidably mounted in the frame 114 so that the window can be selectively moved into and out of the second portion of the opening 102. The window 144 may be made, for example, of glass or plexiglass. A window locking members, generally designated, by the numeral, 146 is provided having locking portions 148 and 150 which lockingly engage each other in a well known manner to lockingly secure the windows 130 and 144. The ventilation panel 26 may also be provided with a screen member (not shown) as is illustrated in Figure 2. The ventilation panel is also provided with coupling members 152

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which couple the panel to the garage door panel of the garage door 12.

The invention has been shown and described in what is considered to be the most practical and preferred embodiment.

5 However, it should be recognized that changes may be made by those skilled in the art without departing from the spirit and scope of the invention.